

US EPA ARCHIVE DOCUMENT



Climate Change Adaptation and EPA's National Water Program

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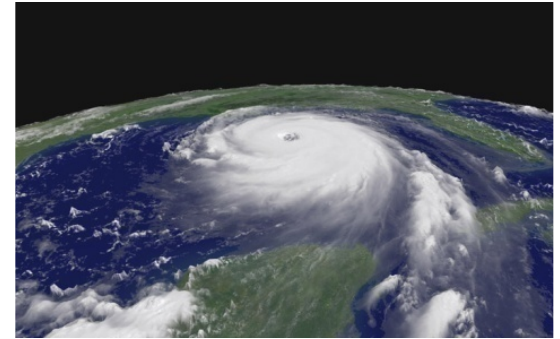
Introduction



“Climate change has already altered, and will continue to alter, the water cycle affecting where, when, and how much water is available for all uses.”

USGCRP, “Global Climate Change Impacts in the U.S.” (2009), Water Sector.

Some Water-Related Effects of Climate Change



- Warmer water temperatures
- Changing patterns of precipitation
- Earlier snowmelt
- More extreme weather events
- Increased drought
- Sea level rise and storm surges
- Coastal impacts and ocean acidification

Federal Government Response

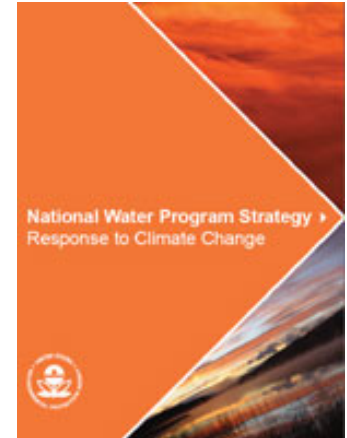
1. EPA Water Program Strategy
2. Agency Adaptation Plans: EPA
3. National Climate Assessment
4. Interagency Adaptation Task Force
5. Advisory Committee on Water Information (ACWI)



The National Water Program Climate Change Strategies

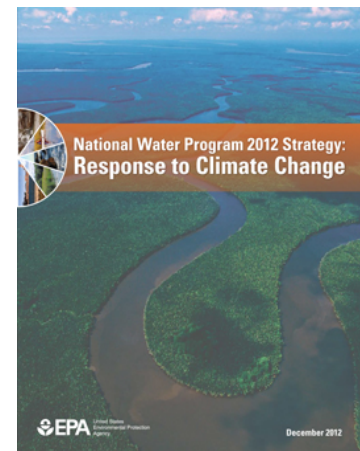
➤ 2008 Strategy

- Examined implications of climate change for water resources and EPA mission
- Identified key actions to begin adapting the EPA Water Program over the coming years



➤ 2012 Strategy (Released December 2012)

- Builds on momentum of early programs
- Placed within the broader national and interagency context
- Charts a long-term strategic direction for EPA's water program to be 'Climate Ready'



Our Vision

“Despite the ongoing effects of climate change, the National Water Program will continue to achieve its mission to protect and restore our waters; ensure that drinking water is safe; and assure that aquatic ecosystems sustain fish, plants and wildlife, as well as economic, recreational, and subsistence activities.”



Issue Topics

- **Infrastructure**
- **Watersheds and Wetlands**
- **Coastal and Ocean Waters**
- **Water Quality**
- **Working with Tribes**



Infrastructure Vision



- Resilient and adaptable drinking water, wastewater and stormwater utilities ...
 - make smart investment decisions to improve the sustainability of their infrastructure and operations, and the communities they serve...
 - while reducing greenhouse gas emissions through greater energy efficiency

Implementation Highlight

Climate Resilience Evaluation and Awareness Tool (CREAT) 2.0

- Assists water utilities in conducting climate change risk assessments and promotes a general understanding of climate change impacts
- New Version 2.0 was just released and includes:
 - more robust scenario-based planning, extreme events data, and energy management capabilities
 - embedded basic and advanced video training modules allows comparison scenarios for multiple time periods
- During 2012, pilots were conducted in Oakland, California and Wilmington, Delaware



Watersheds and Wetlands Vision

- Watersheds are protected, maintained and restored to ensure climate resilience and to preserve the ecological, social and economic benefits they provide; and ...
- The nation's wetlands are maintained and improved using integrated approaches that recognize their inherent value as well as their role in reducing the impacts of climate change.



Implementation Highlight

National Wetlands Condition Assessment (NWCA)

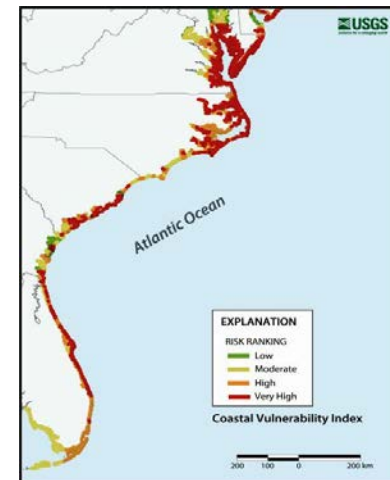


- A statistically valid, ecological condition assessment of the Nation's wetlands
- Provides a baseline on wetlands conditions and will help assess changes as a result of climate change and other stressors
- Informs development of models/management strategies, including climate change adaptation
- Final Report of initial assessment in December 2013
- To be repeated every 5 years

Coastal and Ocean Waters Vision



- Adverse effects of climate change, and unintended adverse consequences of responses to climate change, have been successfully prevented or reduced in the ocean and coastal environment.



Source: Lands Vulnerable to Sea Level Rise, US EPA 2008

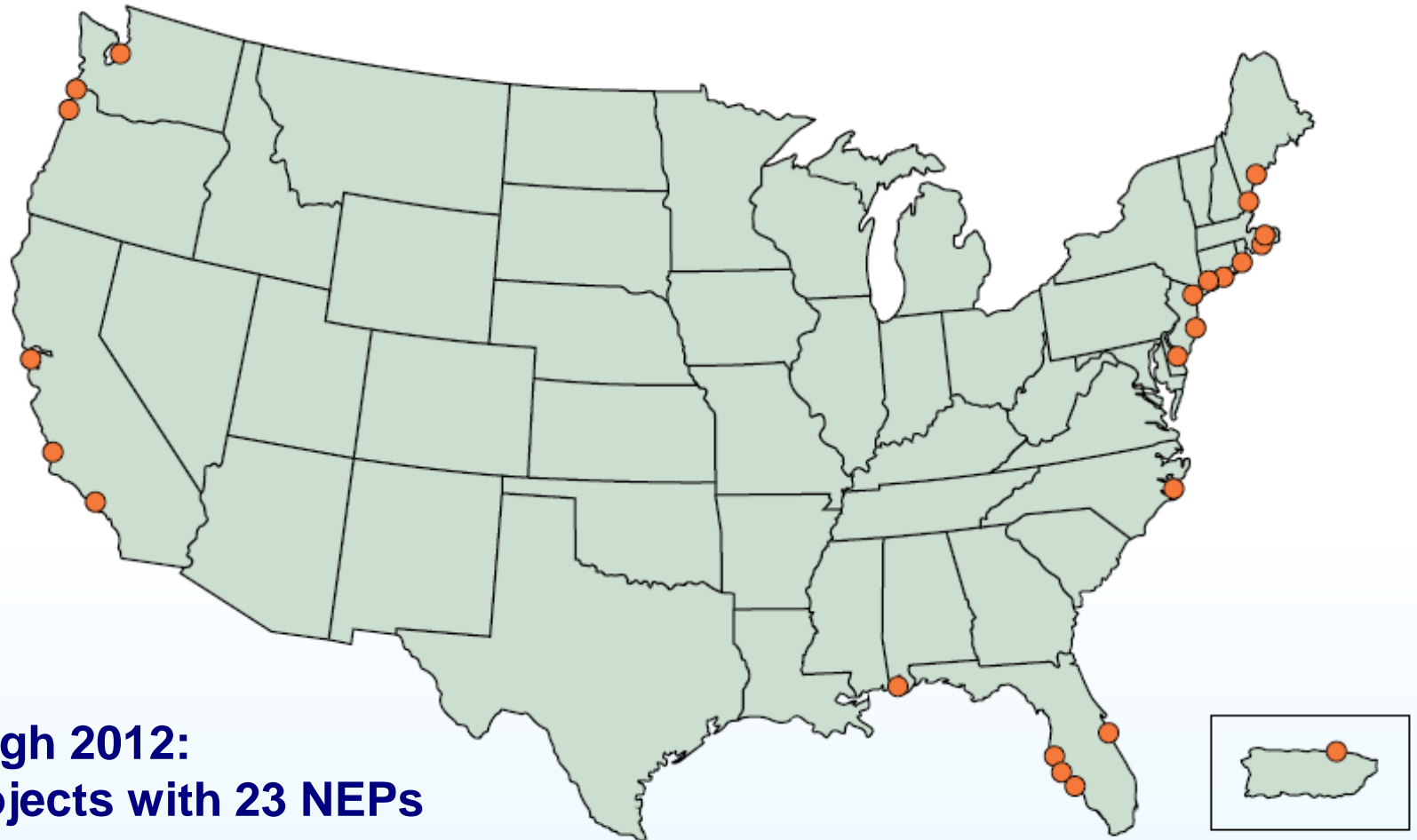
Implementation Highlight

Climate Ready Estuaries (CRE) Program

- Vulnerability assessment workshop with some National Estuary Programs in February
- Adaptation Planning Workbook for estuaries and watersheds expected to be released in 2013
- Through 2012, 37 climate adaptation projects were supported in 23 of the 28 NEP study areas
- In 2013, continue funding NEPs to build their capacity to respond to climate change



Climate Ready Estuaries Partners, 2008–2012

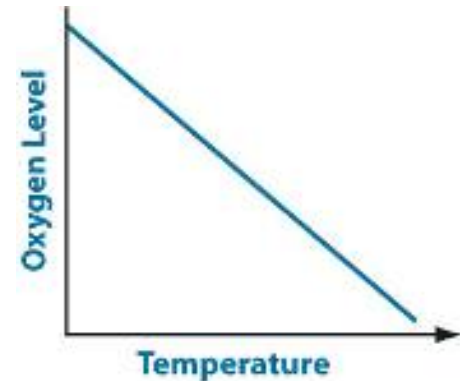


**Through 2012:
37 projects with 23 NEPs**

Water Quality Vision



- The Nation's surface water, drinking water, and ground water quality are protected, and the risks of climate change to human health and the environment are diminished, through a variety of adaptation and mitigation strategies.



Lower dissolved
oxygen levels

Implementation Highlight



Stormwater Climate Assessment Tool (CAT)

- Allows users to assess stormwater control measures to mitigate flooding resulting from climate change-influenced precipitation
- Will aid EPA in developing a new rule for managing municipal stormwater discharges
- Allow for comprehensive management of stormwater controls by Municipal Separate Storm Systems

Working with Tribes

Vision



- Tribes are able to preserve, adapt, and maintain the viability of their culture, traditions, natural resources, and economies in the face of a changing climate



Regional Chapter Contents



Goals

Top priorities that EPA Regions within each Climate Region will work to accomplish

Strategic Issues

Key climate change impacts and issues of concern in the Climate Region

Strategic Actions

Actions to build resilience at the national, state, tribal & local level, including working with partners

The Broader Context: EPA



- EPA Office of Research and Development (ORD)
- Office of Air and Radiation (OAR)
- EPA Agency-wide Climate Adaptation Planning
 - Climate Change Adaptation Policy June 2011
 - Adaptation Plan under review at OMB/CEQ
 - Detailed Implementation Plan: June 2013
 - 2012 Strategy is water element of Implementation Plan

National Climate Assessment



U.S. Global Change Research Program

National Climate Assessment

- Draft released January 2013
- Water Resources Chapter
- Other Chapters Related to Water
 - Water Energy and Land Use
 - Urban Systems, Infrastructure, and Vulnerability
 - Decision Support
 - Adaptation
- Climate Regions; water assessments for each
- Comments due April 12
- Final Assessment: early 2014

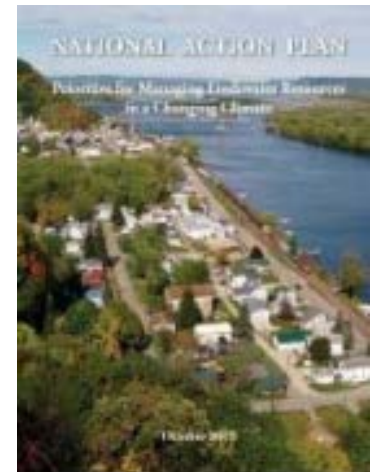
Interagency Climate Change Adaptation Task Force



- Chaired by CEQ, NOAA, and OSTP
- Participation from diverse other Federal agencies (e.g., HUD, DOT, DOE, State as well as DOI, EPA, DOD)
- Comprehensive Reports in 2010 and 2011
- Agency Adaptation Planning
 - EO 13514
 - Implementing Instructions: March 2011
- Crosscutting Strategies
 - Water Resources
 - Coastal/Ocean
 - Fish/Wildlife/Plants

National Action Plan Priorities for Managing Freshwater Resources in a Changing Climate

- Published October 2011 by Interagency Climate Change Adaptation Task Force
- Key Recommendations:
 - Establish Planning Process
 - Improve Water Information
 - Strengthen vulnerability Assessments
 - Expand Water Use Efficiency
 - Support Integrated Water Resources Management
 - Support Training and Outreach



Advisory Committee on Water Information (ACWI)

- New Climate Workgroup ACWI
 - Created in June 2012
 - EPA Office of Water co-chairs with Water Environment Federation
 - 40 stakeholder organizations and Federal agencies (including NIWR)
 - Supports implementation of *National Action Plan*

Other Federal Collaborations



- CCAWWG (Climate Change and Water Working Group including NOAA, DOI, Army Corps of Engineers, EPA, others)
- Subcommittee on Water Availability and Quality (SWAQ)
- Floodplain Management Task Force
- National Ocean Council
- Regional Integrated Sciences and Assessment (RISAs)
- Landscape Conservation Cooperatives (LCCs)
- Climate Science Centers

Directions



1. Implement 2013 Workplan for New Strategy
 - National Water Programs
 - EPA Regional Offices
 - Report on progress annually
2. Support EPA Climate Adaptation Plan (June 2013)
3. Participate in Implementation of:
 - *National Freshwater Action Plan*
 - National Ocean Policy climate change recommendations
 - National Fish/Wildlife/Plants Strategy
4. Support Operations of ACWI Climate Workgroup

Thank you...

Questions or More Information?

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- <http://www.epa.gov/water/climatechange>

